Perceived Citizen Insecurity in Honduras and the Human Capital Investment Decision

Philip Marx

Tulane University

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Advisors: Dr. John Edwards, Dr. Alan Barreca, Dr. Mary Clark

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1. Introduction

This paper examines the effects of violence, as measured by perceived insecurity, on educational attainment in Honduras. Education is a major policy issue and a prerequisite for growth. This is certainly true in Latin America, where approximately half of the population is under the age of twenty-five and thirty percent is between the ages of ten and twenty-four (PAHO, 2003). Honduran enrollment and completion rates remain low in comparison to global and regional averages. In a study by the World Bank, Honduras had the highest percentage (54%) of young people aged 20-24 who left school after completing nine years of study or less (1996b). The percentage of Honduran adults who have not completed at least six years of schooling is among the highest in Latin America, as is the proportion of thirteen to seventeen-year-old urban Honduran youths who are neither studying nor working (Arriagada and Godoy, 2000). Thus, understanding the determinants of education in Honduras is important.

Violence is also a very prominent issue in Latin America. Most crime data suffers from severe underreporting by victims and lack of survey data (Ayres, 1998), so this assertion is typically supported with homicide rates, which are less prone to underreporting and are typically correlated strongly with other forms of crime. By this measure, trends in violence continue to rise in most countries in the Latin America and Caribbean (LAC) region (Maddaleno et al. 2005). The homicide rate in Latin America is almost three times the world average (Krug et al, 2002).

School-age youth are by no means immune to violence. Of all homicides in Latin America, 28.7% affect youths between the ages of 10 and 19 (Guerrero, 1997). The homicide rate in Honduras is exceptionally high and has shown little sign of improving. Between 2008 and 2009, the number of homicides in Honduras rose by 17.7%, to a national average of 66.8 homicides per 100,000 residents (IUDPAS-UNAH, 2010). This is much higher than the Latin American average of 27.5 homicides per 100,000 residents (Krug et al, 2002). Thus, violence directly affects the lives of many Hondurans.

Crime and violence may affect the education decision in various ways. The constant threat of violence can have an emotional toll on its victims, decreasing their interest in studies and hampering their school performance. Anecdotal evidence has suggested that schoolchildren are sometimes specifically chosen as victims for crime during the commute to school or immediately outside of school grounds. In a survey in Jamaica (World Bank, 1996a), for example, 30% of girls responded that they were fearful of going to school due to the threats of crime and violence. This may discourage school attendance and ultimately performance. Even if children are able to attend school, there may be costs associated with teaching or learning in an environment plagued by violence (Ayres, 1998). Morrison and Orlando (1999) find that children who are victims of aggressions have a higher likelihood of exhibiting disciplinary problems or dropping out of school.

Crime may also decrease the expected returns of education. Adolescents may choose lower-paying jobs that require less education but decrease their probability of victimization, if they associate higher salary jobs with an increased risk of victimization by crime. The risk of violence can also decrease productivity and hence wages, which will affect the expected benefits of education. Such an impact on the decision to invest in schooling will be especially noticeable

for children who are already deciding at the margin. In other words, insecurity may be a decisive factor in determining whether or not to pursue education if the benefits of further studies already barely outweigh the costs.

However, attempts to measure the effects of insecurity on enrollment rates and returns to education will face limitations with respect to determining causality. Insecurity may discourage school attendance, but areas with low enrollment rates may also have high levels of insecurity because of gangs and criminal groups that are largely composed of uneducated, unemployed youth. Similarly, low returns to education in the formal employment sector may encourage participation in the informal market or in criminal activities, where returns may be higher. This will simultaneously increase the level of insecurity while decreasing enrollment rates (as youths drop out and become involved in criminal activities) and returns in the formal employment sector, due to the increased costs of rent-seeking.

This paper will examine whether there exists a link between the poor state of secondary education and high levels of crime in Honduras, as measured by reported perceived insecurity. The basis for the paper builds on previous work by Lukashov et al. (2010); in the paper, I will expand on their methods and reanalyze their results using more recent data. Section 2 reviews literature in the subjects of education and violence from an economic perspective. Section 3 offers a description of the data and summary statistics. Section 4 presents the econometric methodology and statistical models measuring the direct relationship between insecurity and school enrollments, as well as between insecurity and the internal efficiency of the schooling system. Section 5 analyzes the effects of insecurity on the expected returns to education to determine whether this may indirectly influence the enrollment decision. Section 6 provides concluding remarks.

2. Previous Literature

i. Returns to Education and the Decision to Invest

In addition to creating a climate of fear, citizen insecurity may affect expected returns to education. People take into account the private costs and benefits of education and decide to continue studying if the present value of benefits from doing so outweigh the costs. More formally, the traditional human capital model (Becker, 1964) argues that people continue with education as long as the discounted expected private returns (calculated as the increase in lifetime earnings) exceed the costs of investment (which include foregone earnings and any direct costs of education).

A climate of violence can affect these returns in a variety of ways. In addition to increasing the direct costs of study through the chance of victimization by crime and the associated emotional toll, crime and violence can severely hamper the formation of social capital (Ayres, 1998), defined as the "trust, norms and networks that can improve the efficiency of society by facilitating coordinated actions" (Putnam, 1993). This, in turn, can diminish the returns to education (World Bank, 1996b). Additionally, the model proposed by Murphy et al. (1993) argues that rent-seeking activities lead to costs incurred in defensive technologies; thus, as more resources are allocated to rent-seeking, the returns to production fall.

The rate of return to schooling in the LAC region is approximately 12.0% (Psacharopoulos and Patrinos, 2002). Primary education continues to show the highest social profitability in all world regions (Psacharopoulos, 1994), and the returns to secondary education are higher for females (Psacharopoulos and Patrinos, 2002). The diminishing returns to human capital investment create an inverse relationship between average income and the returns to

education at the national level (Psacharopoulos, 1994). Further factors also influence the decision to invest in education. Eckstein and Wolpin (1999) argue that youths who drop out of high school may have different traits than those who continue with their studies, such as lower expectations about rewards from graduation, a higher value on leisure, and a lower consumption value of school attendance. Bradley and Lenton (2005) find a relationship between dropout rates in the United Kingdom and young people's prior attainment, family background, and the state of the labor market. However, the high rates of return in the LAC region raise the question of why educational attainment is not higher. Credit constraints are a frequently cited reason, but violence and crime may have additional deterring effects.

ii. The Cost of Crime

This paper argues that crime and insecurity can have a negative effect on returns to education and the decision to invest in education. The literature has typically examined the pecuniary costs of crime, including costs of treatment for health losses, costs of productivity loss, and the opportunity costs of increased spending on private and public security (Brand and Price, 2000; Dolan and Peasgood, 2007; Ayres, 1998), as well as decreased investment in physical infrastructure (Rubio, 1995). There have also been several efforts at estimating less tangible costs of crime, including changes in daily habits and a heightened state of anxiety. Moore and Shepherd (2006) estimate the shadow price of victimization with respect to fear of crime. Glaser et al. (1996) use property prices in London to create a hedonic model that calculates the marginal willingness to pay to avoid a crime. Powdthavee (2005) finds that the fear of crime, as well as victimization by crime, can affect subjective happiness.

iii. The Use of Subjective Response Questions in Economics

As will be discussed in Section 3, the insecurity indices used in this paper are based on subjective response questions regarding perceived level of insecurity in various environments. The use of subjective responses has yet to gain widespread acceptance in the economics discipline, although it is not a novel idea. For instance, subjective responses have been used in studies of unemployment, which have frequently found a negative relationship between unemployment and subjective self-rated well-being (e.g. Winkelmann and Winkelmann, 1998; Frey and Stutzer, 1999; Blanchflower and Oswald, 2004; Clark, 1999). Other examples include the role of absolute and relative income (Clark and Oswald, 1996; Easterlin, 2001), and general development and poverty issues (Ravallion and Lokshin, 2001; Graham and Pettinato, 2002; Powdthavee, 2003). However, it is important to understand the limitations of this method. Ravallion and Lokshin (2001, 335) argue that "welfare inferences drawn from answers to subjective-quality questions are clouded by concerns over the structure of measurement errors and how latent psychological factors influence observed respondent characteristics." Easterlin (1974) presents the hypothesis that responses to subjective welfare questions are often influenced by relative standing rather than absolute changes. Also, respondents may be influenced by what they believe to be the "proper or socially desirable response" (Davis, 1965). I will address later in the paper how these potential issues may affect our measure of insecurity.

iv. Approaches to Measuring the Effects of Violence on Enrollment Decisions

Pursuing further education is an economic decision, determined by costs and benefits. Thus, after investigating the direct link between insecurity and the decision to enroll in school, I will posit some potential explanations for my results. This paper uses a human capital investment model and assumes that violence can have two effects on the decision to pursue education beyond the primary level. The immediate threat of crime or violence may discourage school

attendance and enrollment by increasing the psychological and monetary costs of attendance, and it may directly decrease the internal efficiency of the schooling system, as those who remain in school become more prone to truancy and grade repetition. We will refer to the combination of these two effects as the "direct effect" of insecurity on education. Crime and violence may also have a negative effect on the expected returns to education, thus discouraging the pursuit of education, particularly beyond the primary level. Thus insecurity may indirectly discourage higher educational attainment by decreasing expected returns; I will refer to this as the "indirect effect" of insecurity on the human capital investment decision. Because the first causal factor is difficult to determine and quantify given available data, I will focus on understanding how insecurity affects the returns to education and, in turn, how this may affect the decision to continue studying. At the age of completing primary school, youths already forego earnings from potential labor, and so small changes in the returns can strongly influence the decision to invest in human capital. Thus the effects of insecurity on returns to education may play an integral role in determining schooling decisions.

3. Description of the Data and Summary Statistics

i. EPHPM: May 2006

The Encuesta Permanente de Hogares de Propósitos Multiples (EPHPM) is a nationally representative, biannual household survey conducted by the Instituto Nacional de Estadísticas (INE) that collects data on education, household conditions, family composition, demographic characteristics, employment, and access to technology. The May 2006 survey also includes a subsection that focuses on fear of crime and victimization. The general survey collects information from 99,645 people in 20,911 households. The crime sub-survey includes responses for 4,060 people; one response is received for each selected household, and this is then attached

to all members of the household. The households with responses to the insecurity questions represent 19.4% of the total surveyed households. Table 1 shows that both samples contain approximately 52% female respondents and 53% urban respondents. Additionally, the mean age and income per capita are very similar, which suggests that the insecurity subsample is representative of the larger sample.

Table 2 presents descriptive statistics for the 2006 sample using sample weights provided by INE. According to the sample, 51.82% of the Honduran population is female and 45.47% lives in urban areas. Honduras has a very large youth population, and so adequate education is integral to ensure the country's future success. The mean age in the country is approximately twenty-five years, with 68.81% of the populace under thirty years of age. Honduras also remains one of the poorest countries in Latin America. The average monthly per capita income is just L1,863 (Lempiras) nationally and L2,737 in urban areas, equivalent to 99$ and $145, respectively.

ii. EPHPM: May 2009

Similarly, the May 2009 EPHPM is nationally representative and includes responses from 98,028 people in 21,076 households. The 2009 survey does not contain a separate crime sub-survey, but it does include five questions that measure the level of insecurity in different environments, including the home, the streets of the community during the day and at night, the means of transportation, and the center of the community. The May 2006 violence sub-survey includes these same questions. However, the 2009 insecurity questions have the advantages that they are more recent and that their responses are more comprehensive, given that the questions

were administered to one member of each household in the general survey, rather than only to a small sub-sample.

Table 2 indicates that the percentage of females and urban dwellers in 2009 has changed little since 2006. The mean age in the country has risen slightly to almost twenty-six, although 66.68% of the population remains under the age of thirty. Additionally, the survey results indicate that per capita income has risen to L2,578 ($136) nationally and L3,617 ($191) in urban areas, in spite of the global economic recession.

Descriptive Statistics

a. Education

School enrollment rates are still very low in Honduras. Figure 1 indicates that enrollment at the primary level is nearly universal, but coverage falls rapidly after age twelve. The May 2009 EPHPM shows that the mean number of school years completed among adults over twenty is 5.68 nationally, 7.68 in urban areas, and 3.73 in rural areas. Figure 1 also shows gross enrollment rates for respondents age twenty-two and below. The school enrollment rate, which is approximately 95% at ages six to eleven, decreases dramatically beginning at twelve years of age. This highlights the fact that many young people discontinue their studies when they reach working age.

Table 3 presents a list of the reasons why urban residents aged twelve to seventeen claim to have discontinued their studies in order to help illuminate a few of the factors that determine the low rates of enrollment beyond the primary level. Interestingly, the most frequently cited reason for all ages except twelve was a lack of interest, which points to the fact that the Honduran education system may not provide enough expected future private benefits to warrant

the costs and effort of pursuing further studies. Other reasons are a lack of economic resources, family or health problems, and, beginning at later ages, work. However, the lack of interest suggests that the margin between expected costs and benefits is very small for many students, and so perceived insecurity may play a role in decreasing school enrollments.

Lukashov et al. (2010) mention an additional problem in Honduran education, namely that, each year, the percentage of Honduran youth who are at their expected grade level decreases significantly. Although part of the result stems from drop-outs, the increase in variance for each successive age group also implies that adolescents are repeating school years, pausing their studies, or beginning later. Thus, this study hopes to focus not only on the potential effects of insecurity on enrollment rates, but also on school performance, as measured by the discrepancy between expected and actual completed years of schooling.

b. Crime and Insecurity

This paper will use two alternative insecurity indices to test for effects of insecurity on enrollments and returns to education. Adopting the methodology of Lukashov et al. (2010), the impact of crime and perceived insecurity will be measured by an insecurity index (I_A) constructed from the responses to five different security questions, listed in Table 4. Each question has a possible response of "very safe" (0), "not very safe" (1), and "very unsafe" (2). The attached numeric values are squared to emphasize the severity of feeling very unsafe and then summed. Thus, a higher score implies a higher level of insecurity. For presentation purposes, we will typically group the resulting numbers into five equally spaced intervals for figures and tables, although the interpretation remains the same.

$\mathbf{I_A}$, where

I_A assumes that the marginal effects of insecurity will become more severe as the feeling of insecurity increases**.** Such a model also mimics a risk accumulation approach, in which the number of risks influences behavior (see, for example, Kostalny and Garbarino (1996)).

Responses to the different questions seem relatively well-behaved. The number of questions to which people respond "very unsafe" largely determines the environments in which they actually feel unsafe. For example, somebody who responds feels feeling very unsafe in the home will probably also feel very unsafe in all other environments. However, in order to test the robustness of our insecurity measures, we will also test an additional insecurity measure (I_B), which counts the number of environments in which a respondent feels "very unsafe."

I_B , where

Figure 2 presents a distribution of responses for the set of questions, and Figures 3 and 4 present the calculated insecurity indices I_A and I_B, respectively, for the 2006 and 2009 EPHPM surveys. In 2006, roughly half of Hondurans reported feeling very safe in their home, whereas less than 25% felt very safe in the streets of their community at night, in the center of the city, and in the means of transportation that they used. As a matter of fact, over 30% responded that they felt very unsafe in each of these environments. The general behavior remains the same in 2009; the home is the safest place, while the community at night, the city center, and the means of transportation remain the most feared locales. The percentage of respondents feeling very safe increased slightly for all questions. Nearly 60% of respondents now feel very safe at home, and over 30% feel very safe in the center of the city, the community at night, and the means of transportation. However, from the responses for each question, we see that the differences seem to result largely from a shift from responses of "not very safe" to "very safe." The percentage of

people who feel very unsafe, on the other hand, has remained mostly the same, with changes less than or equal to five percent. Whether to attribute the discrepancies to an actual change in mentality, a difference stemming from an increased and perhaps more representative sample in 2009, or a random error term remains unclear.

In Figure 3, it is interesting to note that the 2009 insecurity index is also much more skewed towards the extremes: the percentage of respondents in the lowest perceived insecurity category is much higher (34.31% are in the lowest category, compared to 23.61% in 2006), but so is the percentage in the highest perceived insecurity category (18.78% and 14.05%, respectively). Thus, while some of the country reports being safer, the number of citizens who feel very unsafe has also increased.

Since the questions used to construct the measures of insecurity are subjective in nature, it could be argued that they serve as proxies for other psychological factors. Fortunately the 2006 survey allows the indices to be corroborated by actual victimization information. Appendix Table A1 shows responses to the insecurity questions conditional on having been victims of certain crimes. More generally, Table A1 highlights three points. First of all, it corroborates our statement that urban respondents feel less safe than their rural counterparts. Also, the insecurity measure is accurate insofar as it picks up on effects from actual victimization. Reported scores are noticeably higher in groups that have actually been victimized. Finally, the effects of insecurity and violence in Honduras are very real, with significant portions of the population altering their living habits in order to cope. Of particular relevance to our study, we see that respondents in 14.17% of urban households have rejected or left a paid job because of insecurity; the figure almost doubles for those who have been robbed.

In spite of the availability of the victimization data, the main insecurity measures are based on perceived insecurity for a few different reasons, the most basic of which deals with the available data. The victimization information is only available for a small sub-sample of the 2006 survey respondents; although representative of the population at large, it is thus not as comprehensive as the 2009 perceived insecurity data. Furthermore, it is likely that people will behave according to how they feel. Although two different respondents may have been victimized by the same kind of crime, their reactions could differ strongly, and this will be better measured by the perceived insecurity indices.

4. Insecurity and the Enrollment Decision

i. Limitations

Prior to developing the econometric models, I introduce some important caveats concerning their robustness and inherent limitations. While the presence of crime can affect employment opportunities and decisions, employment opportunities can serve as positive incentives to avoid criminal behavior (Ayres, 1998; Freeman, 1996), and a lack of formal employment opportunities can lead to substitution by informal or illegal activities. Similarly, the fear of crime and violence may discourage school attendance, but enrollment and attendance have been noted as causal factors in the occurrence of violence (Arriagada and Godoy, 2000). Thus, the inherent circularity of the argument may lead to certain biases in the results. As an example, a significant negative relationship between perceived insecurity and the likelihood of enrollment may reflect two things. First, a high level of perceived insecurity may lead to decreases in the expected returns to education. Second, people living in areas with low matriculation rates may also report a higher level of perceived insecurity, simply because low completion rates increase the prevalence of crime. A purely causal interpretation that does not

account for endogeneity issues leads to potential overestimation of the effects of insecurity on returns to schooling and enrollment decisions. However, although cognizant of the issue, the available data did not provide a set of strong instrumental variables with which to supply better estimates. Nevertheless, the estimates are still helpful as an upper bound on the true causal effect of perceived insecurity. Given the novelty of the hypothesis, such estimates will provide a rough benchmark against which to compare any future work.

The model for expected rates of return also assumes a certain lack of mobility, in the sense that it cannot account for the fact that people's current level of insecurity may differ from their expected level of insecurity in the future. Thus, somebody who studies in a very unsafe area may do so in order to obtain better employment opportunities and move out of their current situation, in which case their current level of insecurity would not negatively affect their future expected earnings. However, people will ultimately make decisions based on their *expected* returns, which will still likely be influenced by the environment in which they live. Furthermore, the evidence gives no reason to believe that more highly educated, higher-income people are less prone to victimization by crime. Crime in Honduras is a largely urban phenomenon that is not solely restricted to certain neighborhoods, and thus it may be impossible to escape potential victimization. Furthermore, rent-seeking models would suggest that those with higher earnings would also be more attractive targets for rent-seeking behavior, and so education does not signify an escape from high-crime areas.

Additionally, the model cannot measure the additional effects on enrollment decisions of people who do not live in urban areas. For example, non-urban dwellers may forgo continuing their education and avoid moving to urban areas with more lucrative employment opportunities

because of the reputations for violence that these areas have. Thus, their incentives to invest in human capital are also affected, but this is not measured in our current model.

A final caveat concerns the measurement of the fear of crime. In spite of the growing body of research, there remains some confusion regarding the definition and measurement of fear of crime. For example, the measurement may pick up on fear and anxieties unrelated to crime (Ditton et al. 1999; Christmann et al. 2003). Thus, insecurity may serve as a proxy for other psychological factors. It is not possible to eliminate this noise from the measure, and so we must remain aware that part of the results may stem from psychological differences in respondents that do not reflect levels of insecurity. As discussed earlier, however, Table A1 supports the assertion that the insecurity questions do reflect the risks of being affected by crime.

It may be insightful to subject the model to hypothetical shocks to see how changes in exogenous factors, such as labor markets, could affect our results. In doing so, we adopt the economists' traditional approach and assume that a person will commit crimes if the derived utility outweighs the utility from other applications of his scarce resources [for such models, see Becker, (1968)]. For example, suppose an economic shock that affects low-skill, low-wage workers. Although such workers are originally included in our estimates of returns to schooling, such a shock may force them out of the formal employment sector. At the same time, this may create a selection bias in which only the top-performing low-skill workers remain included in our measurements, possibly inflating our observed returns at the low end of the spectrum. Some low-skill workers may seek employment in productive segments of the informal economy, but others will likely resort to rent-seeking and other criminal behavior. Thus our measure of wages could be inflated and show higher returns to lower schooling levels, when in fact they may be lower.

Furthermore, a measureable increase in crime would lead to higher victimization rates and perhaps a higher earnings differential between those who feel safe and those who do not.

On the education front, a downturn will decrease the opportunity cost of obtaining an education, thereby causing an increase in the amount of schooling. At the same time, access to debt markets is typically not an option for funding schooling, and so a shortage of private resources to finance an education may hamper the ability to attend school. Thus, the effects on our model's predictions concerning insecurity are unclear, although it is likely that a certain percentage of those who are forced out of schools by a lack of resources would resort to rent-seeking behavior, which could increase the level of perceived insecurity in lower-income areas.

i. Econometric Methodology and Subsample

This section will implement various statistical models to thoroughly investigate the direct effect of perceived citizen insecurity on school enrollments. I will examine two different issues: 1) how insecurity directly affects enrollment rates, and 2) whether insecurity directly affects internal school efficiency. The first question will be addressed through the implementation of a logit model and a dropout hazard model. For the second question, I will adopt a multivariate ordinary-least-squares regression that models a student's grade-for-age (GFA); this compares a student's actual grade completion to his or her expected grade completion. Popular in the health literature, such models have previously been implemented in analyses of education (Edwards, 2002).

As evidenced in Section 3, enrollment rates in Honduras begin to decline drastically at age twelve. Table A1 indicates that rates of victimization and perceived levels of insecurity are significantly higher in urban areas than rural areas. Additionally, crime is an issue that affects

adolescents more than primary age-children. For these reasons, I limit the subsample to urban adolescents between the ages of twelve and seventeen. The nature of the available data makes it difficult to extract attributes of the parents, and so I focus on the characteristics of the head and spouse of the head of the household. However, in order to ensure a relatively homogeneous subsample with similar household characteristics, I include only those children who live in a household headed by a parent or a non-sibling family member. Thus I omit from further study children who are themselves the head or spouse of the head of the household (1.45%), siblings of the head (1.40%), sons or daughters-in-law of the head (1.26%), children who live with a non-relative head (2.39%), and domestic workers (0.41%). Although ideally the analysis would include only parent-headed households, 17.89% of children live in a household headed by another family member; furthermore, many of these households include one or both of the parents, as when the titular "head" is a grandparent, and so I choose to include these children.

Table 5 shows the marginal data reductions that lead to my final sample, henceforth referred to as Reduced Sample 1. After restricting to children in households headed by a parent, a step-parent, or another non-sibling relative, I eliminate those respondents with missing values in any of the independent variables. This leads to the subsample, which includes 92% of all twelve to seventeen-year-old respondents. All models will include a similar vector of household and individual characteristics. Table 6 provides the means for the different elements of the vector for Reduced Sample 1. The individual characteristics include the age of the child, the gender of the child, and what kind of region the child lives in. At the national level, the mean age of respondents is 14.4, and 47.45% of youths are female. 16.24% live in Tegucigalpa, 7.61% live in San Pedro Sula, 13.28% live in another large urban area, and 9.55% live in a small urban area. The remaining percentage is rural respondents. The percentage of females and the mean age are

similar at the urban and national level. Of all urban respondents, 28.45% live Tegucigalpa, 16.37% live in San Pedro Sula, 34.66% live in another large urban area, and 20.52% live in a small urban area.

At the household level, I include the household income, the school years of the head and spouse of the head, the number of people living in the home per room, and whether the male or female spouse lives in the home. Also, although the male or female spouse of the head may no longer live in the household, his or her characteristics will probably still influence the enrollment decision of the child; thus I regress their estimated school years on characteristics of the head and include the expected values in the variable definition. In order to account for this, I include dummy variables for missing spouses in the regressions. At the national level, the mean number of people per room is 3.72. The number is slightly lower for urban respondents (3.12). The average school years for the male and female head or spouse at the national level are 4.66 and 4.68, respectively (note that these include the regressed values). School years for the head and the spouse of the head are significantly higher in urban areas, however. The male head or spouse has 6.64 years on average, while the female has 6.48; thus the years of schooling for the male are also slightly higher than for the female in urban areas. At the national level, 27.49% of the adolescents live in a household that is missing a male head or spouse, while only 3.6% live in a household where there is no female head or spouse. Nearly 34% of urban youths live in a household where the male head or spouse is missing, whereas 4.11% live in a household without a female head or spouse.

Accounting for these independent variables, I test the two insecurity indices to see whether they are significantly correlated with the dependent variable of interest. Nationally, the

mean scores for insecurity I_A and I_B are 4.48 and 0.79, respectively. The insecurity levels are higher at the urban level, with means for I_A and I_B at 7.17 and 1.35, respectively.

ii. The Logit Model: The Likelihood of Being Enrolled in School

I adopt a logit model approach to estimate the likelihood of being enrolled in school. The decision to use a logit model rather than an OLS regression on an enrollment dummy term is based on the fact that the latter imposes linearity on the relationship between the probability of being enrolled and the independent variables. The logit model regresses the log of the odds—where p = probability of enrollment and odds = $p/(1-p)$—on the previously discussed vector of household and individual characteristics:

I further restrict the Reduced Sample 1 to include only those youths who have reached at least the sixth grade and are thus eligible to pursue a secondary education. Those respondents who have not reached such a level exhibit other problems, which will be examined more closely in the GFA model. This restriction includes 79.27% of all respondents in Reduced Sample 1. Of those, 79.27% and 88.5% are enrolled at the national and urban levels, respectively. The descriptive statistics are presented in Table 7. We observe that the household income and the school years of the male and female head and spouse are higher in our restricted subset, while the number of people per room is lower; this indicates that our new subsample has slightly different characteristics than the sample of all twelve to seventeen-year-olds.

Tables 8 and 9 present the results for the logit models at the national and urban levels, respectively. Note that we may interpret the odds ratio as the marginal effect on the likelihood of

enrollment. Thus, at the national level, each 1000 Lempira increase in household income leads to a 1.8% increase in the probability of enrollment. Age and the number of people per room have a strong negative effect on enrollment, while the school years of the head and the spouse both have pronounced positive effects. The effects of schooling are bigger for the female head or spouse, with each one year increase resulting in a 12% increase in the probability of enrollment for the child, compared to a 7.6% increase for the male counterpart. Females are almost 60% more likely to be enrolled than their male counterparts. Access to a public secondary school in the community increases the probability of enrollment by 50%, although it is possible that this measure picks up on additional characteristics omitted from the model. The probability of being enrolled is much higher for all urban areas. For example, residents of Tegucigalpa are nearly three times as likely to be enrolled as rural dwellers.

The inclusion of I_A or I_B into the national model has no significant effect if I do not account for differences between urban and rural areas. However, when I include an urban insecurity interaction term, insecurity has a significant negative effect in urban areas. This supports the prior hypothesis that insecurity is especially present in urban areas and leads to the decision to re-estimate the models for urban areas only. The positive relationship between insecurity and enrollment rates in rural areas, although unexpected, probably results from the fact that rural areas with higher levels of crime may share more common attributes with “urban” areas than their rural counterparts. The estimates of all other parameters remain unchanged, except for increases in each of the city dummies. These increases imply that perhaps differences in enrollment rates between urban and rural areas would be even larger, were it not for the hampering effect of insecurity.

At the urban level, the 2% increase in the probability of enrollment with each 1000 Lempira increase in household income is comparable to the 1.8% increase computed nationally. Each increase in age decreases the probability of enrollment by almost 30%, suggesting that dropouts increase significantly with age. The years of schooling for the male and female head and spouse both increase the probability of enrollment. Each one year increase in schooling for the male head or spouse leads to a 5.4% increase in the probability of enrollment. The effect of the schooling for the female is even stronger, with each marginal increase leading to a 12.6% increase in the probability of enrollment. Females are 83% more likely to be enrolled in school than their male counterparts, which is a staggering discrepancy. Only residents of Tegucigalpa are significantly more likely to be enrolled than their counterparts in small urban areas. The dummies for missing male and female spouse are not significant at the five percent level.

Both of the insecurity indices are significantly negative at the five percent level when we include them in the original regression. As a matter of fact, a one-point increase in insecurity index A will lead to an expected 1.5% decrease in the likelihood of enrollment, and a one-point increase in insecurity index B will lead to a 5% decrease. Using the odds ratio, we can also calculate the percentage change in the likelihood of enrollment between a child that lives in a "very safe" household and a child that lives in a "very unsafe" one. These percentage differences are equal to 26% and 23% for insecurity definitions A and B, respectively. With respect to alterations in the magnitude or sign of other independent variables, the inclusion of the insecurity terms only has an observable effect on the urban area dummy terms. These are increased when the insecurity terms are included. This implies that the probabilities of enrollment would be even higher in larger urban areas if insecurity were not a constant threat for many of the citizens.

iii. Hazard Model of Dropping Out

Similar in nature to the logit model, the proportional hazard model estimates the likelihood of an event—in this case, dropping out of school—occurring at a certain point in time. While the logit estimates the effects on the likelihood of enrollment, the hazard model estimates the effects on the probability of dropping out. Because the data set does not provide the age at which a child left school, I use the number of school years completed as the dependent time variable [for previous examples of this in the literature, see Barro and Kolstad (1987); Willett and Singer (1991); Edwards, Fuller, and Parandekar (1996)]. The probability of dropping out is estimated using all respondents in Restricted Sample 1. This sample includes both adolescents who are still enrolled, as well as those who have already discontinued their studies. The responses for enrolled students are censored, since the data do not allow us to determine when these students stop studying. The hazard model accounts for the censored nature of the data.

The results are presented for national and urban areas in Tables 10 and 11, respectively. In the national model without insecurity terms, household income is negatively correlated with the probability of dropping out. Each 1000 Lempira increase in household income decreases the likelihood of dropping out by 1.2%. The school years of the head and spouse both decrease the dropout rate. The effect of the years of schooling for the female head or spouse is stronger, with each additional school year decreasing the probability of dropping out by approximately 10%. For the male head or spouse, the effect is approximately 7%. The number of people per room, which is an additional measure of poverty and overcrowding in the home, is positively correlated with dropping out. An additional household member per room increases the probability of dropping out by over 8%. Females are approximately 34% less likely to drop out than their male counterparts. Access to a public secondary school in the community decreases the rate of

discontinuing studies, although, again, this measure may reflect other factors not included in the model. I measure no significant impact of a missing male or female spouse on the schooling decision of adolescents. Urban students are much less likely to stop studying than rural ones. The largest discrepancy occurs in Tegucigalpa, where students are only half as likely to drop out as in rural areas.

Although insecurity is not significantly different when we include it alone in the national model, the inclusion of an urban interaction term indicates that insecurity is significantly correlated in urban areas. Furthermore, unlike in the logit model, we observe no significant relationship between insecurity and school enrollments in rural areas, which confirms our prior belief that the effects of violence will occur primarily in urban areas. All original parameter estimates remain unchanged in terms of sign and magnitude when we include insecurity, except for the urban dummies, which increase in magnitude. This suggests that insecurity may actually decrease discrepancies in schooling attainment between urban and rural areas. Marginal increases in I_A and I_B lead to 1.6% and 5.2% increases, respectively, in the likelihood of dropping out.

Table 11 presents the model results when I limit to urban respondents only. The effect of income is slightly more pronounced than at the national level, with each 1000 Lempira income increase lowering the probability of dropping out by 1.7%. The effects of schooling for the head and the spouse are similar as in the national model. A one-year increase in schooling for the male head or spouse decreases the child's probability of dropping out by approximately 6%, whereas a similar increase for the female decreases the drop out risk by 11%. Overcrowding in the household remains correlated to a higher dropout risk. I still reject that effects of a missing male or female spouse are significantly different from zero at the five percent level. Additionally, I

observe that inter-urban differences are negligible between small urban areas, large urban areas, and San Pedro Sula. Students in Tegucigalpa, however, are approximately 20% less likely to drop out than their peers in small urban areas.

Both of the insecurity indices are significantly different from zero at the five percent level when included in the urban model. The urban dummies are the only parameter estimates that change when the insecurity indices are included. The big city and San Pedro Sula dummies change signs but remain insignificant, while the Tegucigalpa dummy remains significant and increases in magnitude. Again, these differences imply that educational attainment in urban areas appears to be dampened by the presence of crime. Using the hazard rate, I estimate 1.3% and 4% increases in the probability of dropping out with a marginal increase in insecurity indices A and B, respectively. Thus, a child living in a very unsafe household ($I_A = 20$ or $I_B = 5$) will be 29% or 22% more likely to discontinue his or her studies than a child in a very safe household. These estimates are very similar to the effects of the logit model and, if unbiased, indicate that insecurity can have a very serious effect on a child's enrollment decision.

iv. Insecurity and Internal Efficiency: The GFA Measure

In addition to the effect of perceived insecurity on the likelihood of enrollment, I test whether insecurity has an effect on students' achievement during their time in school, as measured by their actual grade attainment relative to their expected grade attainment. The model uses ordinary least squares to estimate the equation of the form:

I limit to those respondents in Reduced Sample 1 who are still enrolled in school. Additionally, I include two additional independent variables that measure whether a student was enrolled last year and whether a student is repeating the year, respectively. It is important to note that the repetition variable counts only those students who are actually repeating the year; those who should be repeating their school year but are no longer enrolled are not counted. The inclusion of these two variables leads to additional missing values. Table 12 provides the marginal reductions in sample size. Approximately 1.5% of responses for students still in school are missing due to the absence of values for these two variables.

Table 13 presents descriptive statistics for the GFA subsample. The mean values of the GFA measure are 0.93 and 0.97 for the national and urban levels, respectively. A GFA measure of one would indicate that the average student is exactly at his expected grade level. Thus, on average, Honduran students are slightly below the observed level, although still relatively close. The means for the independent variables are different from the means for Reduced Sample 1. This reflects the fact that the subsample of students has different characteristics than the total sample of adolescents. Average household income is slightly higher in the GFA sample. The national and urban means are L11850 and L14963, respectively. The mean age is slightly lower, and the percentage of females is higher. The mean school years for the head and spouse are also higher, while the number of household members per room is lower. The mean insecurity indices are slightly higher nationally (reflecting possible omitted variable or endogeneity bias issues), but differences appear negligible in urban areas.

Tables 14 and 15 present the results at the national and urban levels, respectively. Surprisingly, household income does not appear to be a significant determinant of GFA. However, the number of people per room in the home, which serves as another measure of

poverty, is significant and negative. The school years of head and spouse are both significant and positive, and the effect is still greater for the school years of the female than for the school years of the male. Females exhibit a higher GFA than males. Students who are repeating their last year or who were not enrolled in school last year have a lower GFA, as expected. The dummies for a missing spouse are insignificant for both males and females. The urban dummies indicate that internal efficiency is greater in urban areas. Interestingly, the largest increases occur in small urban areas and San Pedro Sula. Thus, although Tegucigalpa has the highest rates of enrollment, students who are enrolled in small urban areas or San Pedro Sula have a higher expected attainment for their age. The inclusion of insecurity terms is insignificant. The effect becomes significant and negative when we account for urban differences. However, it is important to observe that the effects of the insecurity measure and the urban interaction almost cancel one another out, indicating that we may not observe a difference in GFA with respect to insecurity levels in urban areas. This will be examined further in the urban models. The urban dummies are the only independent variables affected by the inclusion of the insecurity and interaction terms. Their absolute magnitudes increase slightly, although the relative magnitudes remain consistent.

At the urban level, household income remains insignificant as a determinant of GFA. Age is strongly negatively correlated with GFA, indicating that GFA decreases as age increases. This occurs as students repeat grades or temporarily discontinue their studies. The school years of the head and spouse of the household have a significant positive effect on GFA. This effect is nearly twice as large (0.00562 per school year) for the female as for the male (0.00312). However, the absence of a male head or spouse in the household is negatively correlated with GFA. Thus, students in households without a male head appear more prone to poor school performance and grade repetition. The absence of a female has no significant effect. Urban students have a higher

GFA at a given age than their rural counterparts, although the models suggest that inter-urban differences are negligible, as the urban dummies are all insignificant when compared to GFA in small urban areas. We fail to reject the hypothesis that the effect of insecurity on grade attainment is not statistically different from zero in urban areas. This would suggest that, although insecurity has a measurable effect on the decision to enroll in school, it does not have a significant effect on performance and movement through the school system.

The insignificant relationships between income and GFA, as well as between insecurity and GFA, are unexpected and will thus be explored further. First, we mention that the GFA measure is inherently flawed in the fact that it only counts those students who are still enrolled. It is probable that a non-negligible portion of the students who were furthest behind have discontinued their studies at the time of data collection, in which case they are not included in the model. Thus, low-income or high-insecurity students may be more likely to drop out than to remain in school, where they would perform poorly. An additional explanation deals with the distribution of income, insecurity, and the GFA measure. As observed in the results, repetition is a significant determinant of GFA. However, repetition and school performance are typically distributed within schools, rather than across schools. Thus, the standard for repetition is not well-defined across schools. Students who perform best in one school may be on the low end of the spectrum in another school, and vice versa. On the other hand, income and insecurity are characteristics that tend to vary across schools while being relatively homogeneous within them. For example, a school in a low income community will contain mostly poor students. Similarly, students who attend school in a high-insecurity area will probably all be affected by the threat of violence. In this case, the insignificant relationships between income, insecurity, and the GFA

measure are to be expected. An accurate measure of the effects of these variables would require a study within schools, rather than between them.

5. Insecurity and the Returns to Schooling Econometric Methodology

Given the results in previous sections, it is now interesting to turn to the question of whether insecurity affects the expected returns to education. Since human capital theory assumes that people incorporate the costs and expected benefits into their decision on whether to pursue further education, a negative effect on the returns to schooling would help to explain why children in higher-insecurity households are more likely to discontinue their schooling. Psacharopoulos (1994) describes two main estimates to determine the pecuniary benefits of education: the "full" method, which uses age-earnings profiles by level of education, and the earnings function proposed by Mincer (1974), which involves fitting a semi-log ordinary least squares model that regresses the natural log of income on years of schooling, experience, and experience squared:

where *Skul* represents the years of schooling and *Exp* represents the years of experience in the workforce. Given the nature of available data, this paper will use the Mincerian earnings function to estimate the effects of perceived insecurity on returns to education. I will test the various insecurity variables; also, I will compute returns to schooling per additional year and per additional level of schooling.

In calculating the effects of insecurity on wages and returns to schooling, I limit the sample to salaried employees, which includes employees of private and public firms and domestic workers, in urban areas. This measure does not include members of cooperatives, self-

employed workers, agricultural workers, and those who are currently unemployed. I also omit those who go abroad and send home remittances, since they are not included in the survey. Thus there may be a certain self-selection bias present. Furthermore, the results will only hold for the formal employment sector, even though those who work outside of the formal sector may be more afflicted by violence.

Because the insecurity answers are determined by household—each of which may contain multiple salaried employees—the regressions incorporate clustering to ensure accurate error terms. I include dummy variables for living in Tegucigalpa, San Pedro Sula, and large departmental capitals to avoid a problem of omitted variables, where the insecurity measures, which are higher for larger urban areas, pick up on the positive wage differential that also occurs in cities.

Models

Table 16 offers the results for the Mincerian equation when I account for inter-urban differences and include I_A and relevant interaction terms. The results to the unaltered Mincer equation are reasonable for a LAC country. The returns to school are 11.7%, which is comparable to the average rate of return in the LAC region (12.0%) (Psacharopoulos and Patrinos, 2002). Experience has a positive but decreasing effect on the wage. Females earn 15% less than their male counterparts. Wages are highest in San Pedro Sula, which is expected, since San Pedro Sula is the industrial capital of the country. Wages in Tegucigalpa and other major urban areas are also over 20% higher than returns in small urban areas. Although insecurity is not significant when included alone, it becomes highly significant when combined with a school years interaction term. This suggests that the effect of insecurity is increasing in the number of

school years. However, the positive coefficient on insecurity is unexpected and likely results from the previously discussed endogeneity problem. Additionally, the wage and level of insecurity may be simultaneously determined, as areas with higher wages also have higher incidences of crime. However, the overall effect of insecurity becomes negative at approximately the ninth grade level and increases in magnitude as schooling increases, even when we include the positive insecurity term. All of the original parameter estimates except the returns to schooling remain unchanged when we include the insecurity terms. However, the estimate for returns to schooling increases to 12.4% when we account for insecurity. This implies that insecurity may have a significant negative effect on the rates of return to education in Honduras.

Table 17 presents results to the Mincer equation when we include a decomposed version of I_B, which tests for the effects of insecurity at each value of I_B. The inclusion of insecurity dummies has no significant impact on the wage and does not affect any of the other parameter values. However, I observe a significant negative effect of insecurity on the returns to schooling when I interact the I_B dummies with the returns to schooling. The effect is insignificant at the five percent level for responses of $I_B = 1,2$, but it increases in magnitude for higher levels of insecurity. This closely mirrors the original expectation that insecurity will not have an effect on behavior at low levels, but it will affect behavior once it reaches a threshold level. The estimate for the annual returns to schooling in the absence of insecurity is 12.1%. However, the expected return would be only 10.7% for a person who feels the maximum level of insecurity. This indicates that current measures of school returns in Honduras may underestimate the actual returns by failing to incorporate the negative effects of insecurity.

Finally, Table 18 presents results when I calculate the returns for completing the major levels of schooling in Honduras and interact these dummies with I_A. In this model, females earn

16% less than males, and the returns to experience are slightly lower than estimated in the original Mincer equation. Other parameter estimates remain unchanged. The returns to the different levels of schooling are estimated relative to completing primary school. People with no formal schooling completion earn 30% less than those who have completed primary school. *Ciclo comun* (middle school equivalent) graduates earn almost 36% more than those who have only completed primary school, while *diversificado* (high school equivalent) graduates earn 73% more. Returns to tertiary education vary by type of study but are in the order of 140%. Post-graduates earn almost 180% more than those who have only completed primary school. These numbers reflect the high returns in Honduras for completing secondary and tertiary education and reemphasize the point that increasing secondary school enrollments is crucial for national growth and poverty reduction.

We observe that the effects of insecurity on the returns to schooling at the ciclo comun, diversificado, and university level are significant and negative. The effects are strongest at the *diversificado* level; as a matter of fact, *diversificado* graduates earn more than 80% more than primary school graduates when insecurity is incorporated into the model. The magnitude of the effect of insecurity on returns to schooling seems comparable to what was calculated in Tables 16 and 17. Thus, although the estimates may be biased upwards because of endogeneity issues, insecurity appears to play a significant role in determining the expected returns to education.

6. Conclusion

Although we must remain aware of the potential biases present, the econometric models confirm the hypothesis that insecurity has a direct effect on the rate of enrollment, although I find no relationship between insecurity and schooling efficiency. Insecurity can cause a more

than 20% decrease in the probability of enrollment for adolescents ages twelve to seventeen. Thus, a hypothetical elimination of insecurity in Honduras would lead to a 7.3% decrease in the dropout rate in urban areas. Additionally, insecurity has an observed indirect effect on enrollments because it negatively affects the expected returns to schooling, thus discouraging the pursuit of further schooling. As a matter of fact, the difference between above-average and below-average returns to schooling in Honduras with respect to the LAC average may be attributable to the presence of insecurity. I estimate that insecurity has an annual cost of nearly five billion lempiras with respect to decreased returns to schooling. This is a lower bound on the national cost since it only includes decreased returns to schooling for those employed in the formal employment sector. Thus, the real costs of insecurity may still be much greater. In conclusion, violence and crime, as measured by insecurity, have a strong negative impact on Honduran educational attainment and the returns to education. Thus policies that successfully combat the national crime epidemic should also decrease rates of school desertion and improve the economic standing of many Honduran citizens.

Table 1. Tests for Selection, Insecurity Subsample

	All	Insecurity Subsurvey
Number of Respondents	99645	19384
Number of Households	20911	4060
Female (%)	52.04	52.24
Urban (%)	52.67	52.73
Under 30 (%)	68.52	68.03
Mean Age	25.15	25.54
Income Per Capita (L)	L2014	L2002

*Note that these estimates are computed without sample weights

Table 2. Descriptive Statistics, May 2006 and May 2009 EPHPM Survey

	2006	2009
Number of Respondents	99,645	98,028
Number of Households	20,911	21,076
Female (%)	51.82	51.45
Urban (%)	45.47	45.55
Under 30 (%)	68.81	66.68
Mean Age	24.98	25.91
Income Per Capita (Lemp.)	L1863	L2578
Urban Income Per Capita (Lemp.)	L2737	L3617

Figure 1: Percentage of Respondents Currently Attending School

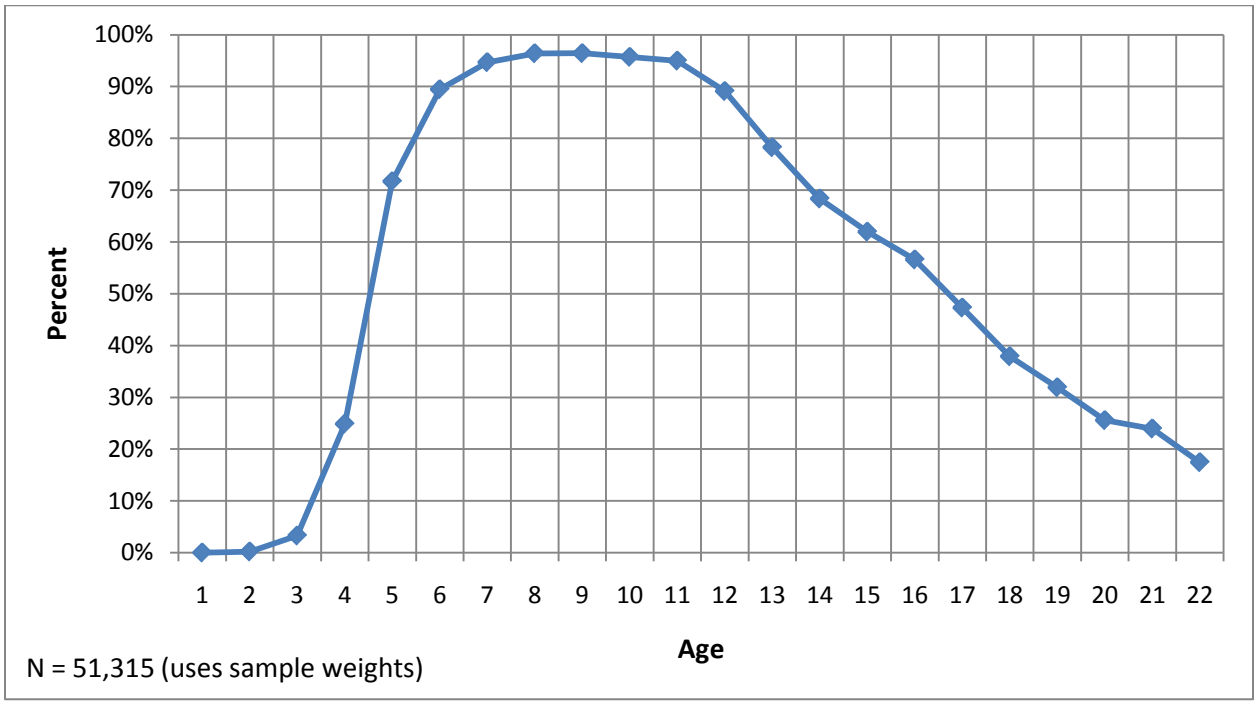

Table 3. Reasons for Not Being in School, 2009 (% of Respondents)

Age	N	On vacation	Finished studies	Doesn't want to continue studying	Helps with house duties	There is no center with appropriate level or it is too far	Family or health problems	Lack of economic resources	Too old to study	Got married or pregnant	For work	Other
12	66	10.61	-	21.21	-	1.52	15.15	39.39	-	-	7.58	4.55
13	132	6.82	-	40.15	3.79	-	10.61	30.30	-	-	3.03	5.30
14	209	2.87	0.96	39.23	7.18	-	11.48	23.92	-	3.35	5.74	5.26
15	283	1.41	0.35	42.76	6.01	-	9.54	23.67	0.35	2.83	8.13	4.95
16*	333	2.10	0.90	39.94	9.31	0.30	3.00	22.82	0.30	4.20	12.91	3.60
17	455	0.44	3.52	36.70	7.03	0.22	5.71	17.58	-	7.25	17.36	4.18

* 0.6% of respondents did not respond. Those students responding "on vacation" are coded as enrolled for all subsequent work.

Table 4.

How do you feel with respect to your security and that of your family:	
Q1.	In your home or apartment?
Q2.	In the streets of your community or neighborhood during the day?
Q3.	In the streets of your community or neighborhood at night?
Q4.	In the forms of transportation which you use?
Q5.	In the center of the city or community?

Figure 2.

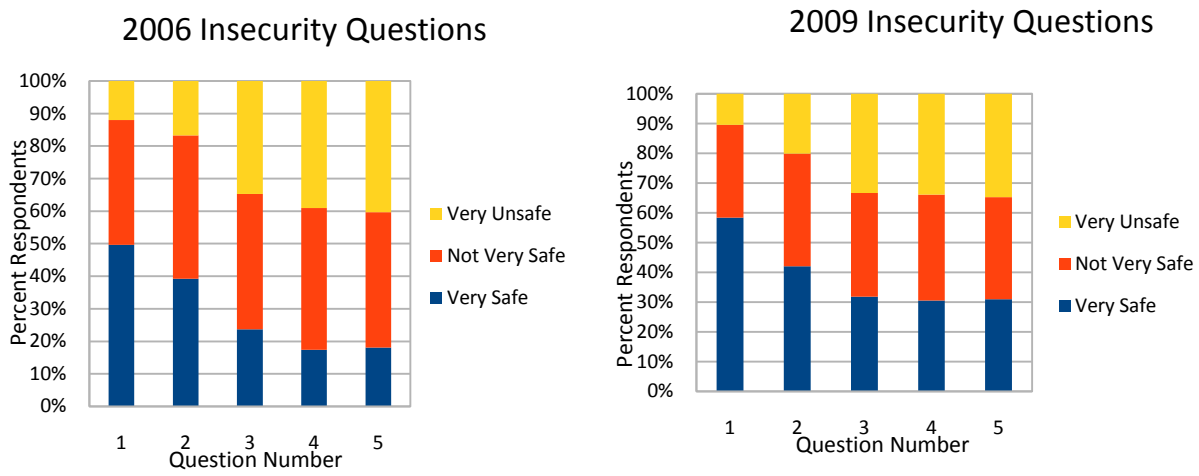

Figure 3.

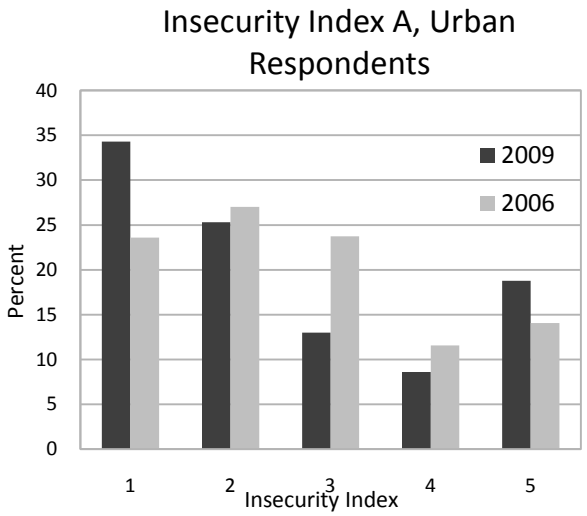

Figure 4.

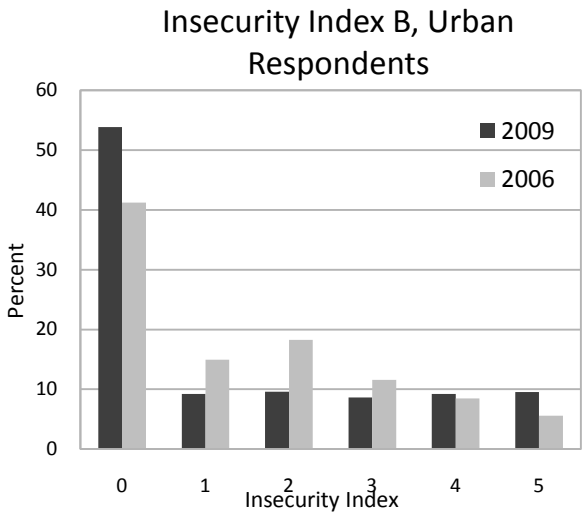

Table 5. Marginal Reductions in Sample Size

	National Sample	% of Original Sample	Urban Sample	% of Original Sample
Original Sample	**15763**	**100%**	**7449**	**100%**
Removing Respondents Who Are:				
Heads of the Household (HH)	15718	100%	7425	100%
Spouses of the HH	15534	99%	7352	99%
Siblings of the HH	15313	97%	7217	97%
Sons-and-Daughters-in-Law of the HH	15114	96%	7162	96%
Non-Relatives of the HH	14737	93%	6929	93%
Domestic Workers	14673	93%	6876	92%
Missing Variable Values	14507	92%	6818	92%
Reduced Sample 1	**14507**	**92%**	**6818**	**92%**

Table 6. Descriptive Statistics for Reduced Sample 1.

	National Sample	Urban Sample
Household Income	10645.17	14397.08
Age	14.4	14.47
Female	47.45%	48.74%
School Years of Male Head or Spouse	4.66	6.64
School Years of Female Head or Spouse	4.68	6.48
Number of People per Room	3.72	3.12
Female Spouse is Missing	3.60%	4.11%
Male Spouse is Missing	27.49%	33.92%
Colegio in Community	23.58%	-
Lives in Small City	9.55%	20.52%
Lives in Big City	16.24%	34.66%
Lives in Tegucigalpa	13.28%	28.45%
Lives in San Pedro Sula (%)	7.61%	16.37%
I_A	4.48	7.172
I_B	0.79	1.353

Table 7. Descriptive Statistics for Logit Model Subsample

	National Sample	Urban Sample
N	**11499**	**6034**
Percent of Reduced Sample 1:	**79.27%**	**88.50%**
Enrolled *	73.96%	85.48%
Household Income	11569.06	14902.58
Age	14.55	14.59
Female	49.71%	50.05%
School Years of Male Head or Spouse	5.18	6.92
School Years of Female Head or Spouse	5.24	6.80
Number of People per Room	3.43	2.98
Female Spouse is Missing	3.65%	4.19%
Male Spouse is Missing	28.50%	33.92%
Colegio in Community	25.52%	-
Lives in Small City	10.08%	19.41%
Lives in Big City	18.11%	34.57%
Lives in Tegucigalpa	15.34%	29.43%
Lives in San Pedro Sula	8.62%	16.59%
I_A	4.83	7.23
I_B	0.86	1.36

* Percent enrolled, conditional on having attained at least the sixth grade.

Table 8. Logit Model, National Level: The Likelihood of Being Enrolled In School

	National Model	National Model + Insecurity A	National Model + Insecurity B	National Model + Insecurity A + Urban Interaction	National Model + Insecurity B + Urban Interaction
Parameter Estimates	**Coefficient (St. Err.)** **Odds Ratio**				
Intercept	6.222 (0.242) ****	6.223 (0.242) ****	6.222 (0.242) ****	6.194 (0.242) ****	6.208 (0.242) ****
Household Income (1000 Lempiras)	0.0181 (0.00319) **** 1.018	0.0181 (0.00320) **** 1.018	0.0181 (0.00319) **** 1.018	0.0176 (0.00319) **** 1.018	0.0178 (0.00319) **** 1.018
Age	-0.439 (0.0158) **** 0.645	-0.439 (0.0158) **** 0.645	-0.439 (0.0158) **** 0.645	-0.440 (0.0158) **** 0.644	-0.439 (0.0158) **** 0.644
School Years, Male Head or Spouse	0.0730 (0.0103) **** 1.076	0.0731 (0.0103) **** 1.076	0.0731 (0.0103) **** 1.076	0.0717 (0.0103) **** 1.074	0.0718 (0.0103) **** 1.074
School Years, Female Head or Spouse	0.112 (0.00964) **** 1.119	0.112 (0.00964) **** 1.119	0.112 (0.00964) **** 1.119	0.112 (0.00964) **** 1.119	0.113 (0.00964) **** 1.119
Number of People per Room	-0.0921 (0.0117) **** 0.912	-0.0922 (0.0117) **** 0.912	-0.0921 (0.0117) **** 0.912	-0.0914 (0.0117) **** 0.913	-0.0917 (0.0117) **** 0.912
Female	0.468 (0.0485) **** 1.596	0.468 (0.0485) **** 1.596	0.468 (0.0485) **** 1.596	0.470 (0.0485) **** 1.600	0.469 (0.0485) **** 1.599
Female Head/Spouse Missing	-0.129 (0.1264) 0.879	-0.128 (0.127) 0.880	-0.128 (0.1265) 0.880	-0.114 (0.127) 0.892	-0.120 (0.127) 0.887
Male Head/Spouse Missing	0.0941 (0.0556) * 1.099	0.0946 (0.0557) * 1.099	0.0948 (0.0556) * 1.099	0.0938 (0.0557) * 1.098	0.0954 (0.0557) * 1.100
Colegio In Community	0.417 (0.0646) **** 1.517	0.417 (0.0646) **** 1.518	0.417 (0.0646) **** 1.518	0.406 (0.0647) **** 1.501	0.409 (0.0646) **** 1.506
Small City	0.556 (0.0935) **** 1.743	0.556 (0.0935) **** 1.743	0.556 (0.0935) **** 1.743	0.638 (0.0969) **** 1.892	0.596 (0.0946) **** 1.815
Big City	0.716 (0.0761) **** 2.046	0.720 (0.0781) **** 2.055	0.723 (0.0774) **** 2.060	0.852 (0.0888) **** 2.344	0.794 (0.0817) **** 2.213
Tegucigalpa	0.980 (0.094) **** 2.665	0.989 (0.101) **** 2.689	0.995 (0.0992) **** 2.705	1.180 (0.118) **** 3.255	1.106 (0.107) **** 3.021
San Pedro Sula	0.603 (0.107) **** 1.828	0.613 (0.114) **** 1.846	0.619 (0.1118) **** 1.858	0.807 (0.129) **** 2.240	0.733 (0.119) **** 2.082
Insecurity Terms					
Insecurity, Definition A (Insecurity A)		-0.00123 (0.00498) 1.009		0.0173 (0.0075) ** 1.017	
Insecurity A*Urban				-0.0323 (0.0101) *** 0.968	
Insecurity, Definition B (Insecurity B)			-0.00937 (0.0193) 0.991		0.0668 (0.0338) ** 1.069
Insecurity B*Urban					-0.116 (0.0413) *** 0.891
AIC:	10557.38	10559.32	10559.14	10551.09	10553.19
Observations: 11499	**Not Enrolled:** 2994	**Enrolled:** 8505			

**** 99.9999 %, *** 99%, ** 95%, * 90%

Table 9. Logit Model, Urban Level: The Likelihood of Being Enrolled in School

	Urban Model	Urban Model + Insecurity A	Urban Model + Insecurity B
Parameter Estimates	**Coefficient (St. Err.) Odds Ratio**		
Intercept	7.519 (0.423) ****	7.538 (0.423) ****	7.517 (0.423) ****
Household Income (1000 Lempiras)	0.0200 (0.00473) **** 1.020	0.0202(0.00474) **** 1.020	0.0201 (0.00474) **** 1.020
Age	-0.463 (0.0265) **** 0.629	-0.462 (0.0265) **** 0.630	-0.463 (0.0265) **** 0.630
School Years, Male Head or Spouse	0.0527 (0.0161) *** 1.054	0.0515 (0.0161) *** 1.053	0.0517 (0.0161) *** 1.053
School Years, Female Head or Spouse	0.1189 (0.0149) **** 1.126	0.120 (0.0149) **** 1.127	0.120 (0.0149) **** 1.127
Number of People per Room	-0.101 (0.0213) **** 0.904	-0.101 (0.0213) **** 0.904	-0.100 (0.0213) **** 0.905
Female	0.606 (0.0804) **** 1.833	0.610 (0.0805) **** 1.841	0.609 (0.0805) **** 1.838
Female Head/Spouse Missing	-0.337 (0.179) * 0.714	-0.316 (0.180) * 0.729	-0.322 (0.180) * 0.724
Male Head/Spouse Missing	-0.130 (0.0846) 0.878	-0.122 (0.0847) 0.886	-0.123 (0.0847) 0.885
Big City	-0.0324 (0.106) 0.968	0.0267 (0.109) 1.027	0.00901 (0.108) 1.009
Tegucigalpa	0.326 (0.119) *** 1.385	0.449 (0.131) *** 1.567	0.415 (0.127) *** 1.514
San Pedro Sula	-0.073 (0.130) 0.930	0.0528 (0.141) 1.054	0.0192 (0.137) 1.019
Insecurity Terms			
Insecurity, Definition A (Insecurity A)		-0.0156 (0.00658) ** 0.985	
Insecurity, Definition B (Insecurity B)			-0.0508 (0.0238) ** 0.950
AIC:	4218.50	4214.94	4216.01
Observations: 6034	**Not Enrolled:** 876	**Enrolled:** 5158	

**** 99.9999 %, *** 99%, ** 95%, * 90%

Table 10. Proportional Hazard Model, National Level: The Probability of Dropping Out

	National Model	National Model + Insecurity A	National Model + Insecurity B	National Model + Insecurity A + Urban Interaction	National Model + Insecurity B + Urban Interaction
Parameter Estimates	**Coefficient (St. Err.) Hazard Rate**				
Household Income (1000 Lempiras)	-0.0125 (0.00225) **** 0.988	-0.0126 (0.00226) **** 0.987	-0.0126 (0.00226) **** 0.987	-0.0124 (0.00226) **** 0.988	-0.0124 (0.00225) **** 0.988
School Years, Male Head/Spouse	-0.0734 (0.00689) **** 0.929	-0.0734 (0.00689) **** 0.929	-0.0734 (0.00689) **** 0.929	-0.0729 (0.00689) **** 0.930	-0.0730 (0.00689) **** 0.930
School Years, Female Head/ Spouse	-0.109 (0.00647) **** 0.897	-0.109 (0.00647) **** 0.897	-0.109 (0.00647) **** 0.897	-0.109 (0.00647) **** 0.897	-0.109 (0.00647) **** 0.897
Number of People per Room	0.0792 (0.00620) **** 1.082	0.0793 (0.00620) **** 1.083	0.0792 (0.00620) **** 1.082	0.0790 (0.00621) **** 1.082	0.0790 (0.00620) **** 1.082
Female	-0.417 (0.0307) **** 0.659	-0.417 (0.0307) **** 0.659	0-0.417 (0.0307) **** 0.659	-0.418 (0.0307) **** 0.658	-0.418 (0.0307) **** 0.658
Female Head/Spouse Missing	0.121 (0.0782) 1.129	0.121 (0.0782) 1.128	0.120 (0.0782) 1.128	0.115 (0.0782) 1.122	0.118 (0.0782) 1.125
Male Head/Spouse Missing	-0.0580 (0.0360) 0.944	-0.0591 (0.0360) 0.943	-0.0587 (0.0360) 0.943	-0.0595 (0.0360) * 0.942	-0.0597 (0.0360) * 0.942
Colegio In Community	-0.273 (0.0444) **** 0.761	-0.274 (0.0444) **** 0.760	-0.274 (0.0444) **** 0.760	-0.269 (0.0445) **** 0.764	-0.270 (0.0445) **** 0.763
Small City	-0.356 (0.0638) **** 0.700	-0.356 (0.0638) **** 0.701	-0.355 (0.0638) **** 0.701	-0.394 (0.0659) **** 0.674	-0.372 (0.0644) **** 0.689
Big City	-0.489 (0.0545) **** 0.613	-0.502 (0.0560) **** 0.605	-0.501 (0.0556) **** 0.606	-0.574 (0.0645) **** 0.563	-0.538 (0.0592) **** 0.584
Tegucigalpa	-0.695 (0.0716) **** 0.499	-0.721 (0.0761) **** 0.486	-0.720 (0.0750) **** 0.487	-0.829 (0.0896) **** 0.437	-0.779 (0.0817) **** 0.459
San Pedro Sula	-0.420 (0.0784) **** 0.657	-0.447 (0.0826) **** 0.640	-0.446 (0.0817) **** 0.640	-0.554 (0.0952) **** 0.575	-0.506 (0.0880) **** 0.603
Insecurity Terms					
Insecurity, Definition A (Insecurity A)		0.00336 (0.00331) 1.003		-0.00373 (0.00461) 0.996	
Insecurity A*Urban				0.0155 (0.00673) ** 1.016	
Insecurity, Definition B (Insecurity B)			0.0148 (0.0132) 1.015		-0.0127 (0.0202) 0.987
Insecurity B*Urban					0.0505 (0.0269) * 1.052
AIC:	79655.73	79656.70	79656.48	79653.33	79654.92
Observations: 14507	**Event:** 4462	**Censored:** 10045			

Follows a chi-square distribution. Levels of significance are reported as stars as follows:

**** 99.9999%, *** 99%, ** 95%, * 90%

Table 11. Proportional Hazard Model, Urban Areas: The Probability of Dropping Out

	Urban Model	Urban + Insecurity A	Urban Model + Insecurity B
Parameter Estimates	**Coefficient (St. Err.) Hazard Rate**		
Household Income (1000 Lempiras)	-0.0168 (0.00380) **** 0.983	-0.0170 (0.00381) **** 0.983	-0.0169 (0.00381) **** 0.983
School Years, Male Head/Spouse	-0.0624 (0.0123) **** 0.939	-0.0614 (0.0124) **** 0.940	-0.0615 (0.0123) **** 0.940
School Years, Female Head/ Spouse	-0.117 (0.0114) **** 0.889	-0.118 (0.0114) **** 0.889	-0.118 (0.0114) **** 0.889
Number of People per Room	0.104 (0.0138) **** 1.109	0.103 (0.0138) **** 1.109	0.103 (0.0138) **** 1.108
Female	-0.538 (0.0604) **** 0.584	-0.542 (0.0604) **** 0.582	-0.540 (0.0604) **** 0.583
Female Head/Spouse Missing	0.233 (0.135) * 1.263	0.217 (0.135) 1.242	0.223 (0.135) * 1.249
Male Head/Spouse Missing	0.0777 (0.0630) 1.081	0.0699 (0.0631) 1.072	0.0711 (0.0631) 1.074
Big City	0.0262 (0.0756) 1.027	-0.0252 (0.0785) 0.975	-0.00945 (0.0775) 0.991
Tegucigalpa	-0.249 (0.0888) *** 0.779	-0.353 (0.0979) *** 0.703	-0.322 (0.0950) *** 0.724
San Pedro Sula	0.0407 (0.0945) 1.041	-0.0622 (0.103) 0.940	-0.0332 (0.100) 0.967
Insecurity Terms			
Insecurity, Definition A (Insecurity A)		0.0125 (0.00491) ** 1.013	
Insecurity, Definition B (Insecurity B)			0.0396 (0.0179) ** 1.040
AIC:	19216.36	19212.00	19213.53
Observations: 6818	**Event:** 1173	**Censored:** 5645	

Follows a chi-square distribution. Levels of significance are reported as stars as follows:
**** 99.9999%, *** 99%, ** 95%, * 90%

Table 12. Additional Marginal Reductions for GFA Measure

	National Sample	Urban Sample
Original Sample	**15763**	**7449**
Reduced Sample 1	**14507**	**6818**
Limiting to Respondents in School	10109	5645
Eliminating Additional Missing Values*	9950	5542

* Missing values associated with variables that are only defined for respondents who are still in school.

Table 13. Descriptive Statistics for GFA Sample

	National Sample	Urban Sample
N	**9950**	**5542**
Percent of Reduced Sample 1:	**68.59%**	**81.28%**
GFA	0.93	0.97
Household Income	11850.39	14963.49
Age	14.06	14.26
Female	50.86%	51.00%
School Years of Male Head or Spouse	5.39	6.99
School Years of Female Head or Spouse	5.46	6.90
Number of People per Room	3.45	3.02
Female Spouse is Missing	4%	4%
Male Spouse is Missing	29%	33%
Colegio in Community	27%	-
Lives in Small City	11%	19%
Lives in Big City	19%	34%
Lives in Tegucigalpa	17%	30%
Lives in San Pedro Sula	9%	16%
I_A	5.04	7.23
I_B	0.90	1.36

Table 14. GFA Model, National Level: A Measure of the Internal Efficiency of Schooling

	Urban Model	Urban Model + Insecurity A	Urban Model + Insecurity B	Urban Model + Insecurity A + Urban Interaction	Urban Model + Insecurity B + Urban Interaction
Parameter Estimates	**Coefficient (St. Err.)**				
Intercept	0.879 ****	0.878 ****	0.878 ****	0.876 ****	0.878 ****
	(0.0191)	(0.0191)	(0.0191)	(0.0192)	(0.0191)
Household Income (1000 Lempiras)	0.000111	0.000111	0.000111	0.000102	0.000106
	(0.000145)	(0.000145)	(0.000145)	(0.000145)	(0.000145)
Age	-0.105 ****	-0.0105 ****	-0.0105 ****	-0.0106 ****	-0.0105 ****
	(0.00104)	(0.00104)	(0.00104)	(0.00104)	(0.00104)
School Years, Male Head or Spouse	0.00367 ****	0.00367 ****	0.00367 ****	0.00364 ****	0.00364 ****
	(0.000656)	(0.000656)	(0.000656)	(0.000656)	(0.000656)
School Years, Female Head or Spouse	0.00734 ****	0.00733 ****	0.00734 ****	0.00732 ****	0.00733 ****
	(0.000616)	(0.000616)	(0.000616)	(0.000616)	(0.000616)
Number of People per Room	-0.0196 ****	-0.0195 ****	-0.0196 ****	-0.0195 ****	-0.0195 ****
	(0.000892)	(0.000892)	(0.000892)	(0.000893)	(0.000892)
Female	0.0304 ****	0.0303 ****	0.0304 ****	0.0303 ****	0.0303 ****
	(0.00340)	(0.00340)	(0.00340)	(0.00340)	(0.00340)
Repeating Last Year	-0.185 ****	-0.186 ****	-0.185 ****	-0.186 ****	-0.185 ****
	(0.00653)	(0.00653)	(0.00653)	(0.00653)	(0.00653)
Enrolled in School Last Year	0.194 ****	0.194 ****	0.194 ****	0.194 ****	0.194 ****
	(0.0105)	(0.0105)	(0.0105)	(0.0105)	(0.0105)
Female Head/Spouse Missing	-0.00625	-0.00151	-0.00138	-0.00133	-0.00132
	(0.00383)	(0.00935)	(0.00935)	(0.00935)	(0.00935)
Male Head/Spouse Missing	-0.00135	-0.00635 *	-0.00627	-0.00653 *	-0.00636 *
	(0.00935)	(0.00383)	(0.00383)	(0.00383)	(0.00383)
Small City	0.0433 ****	0.0434 ****	0.0433 ****	0.0468 ****	0.0451 ****
	(0.00588)	(0.00588)	(0.00588)	(0.00613)	(0.00596)
Big City	0.0354 ****	0.0338 ****	0.0349 ****	0.0389 ****	0.0376 ****
	(0.00542)	(0.00514)	(0.00509)	(0.00573)	(0.00533)
Tegucigalpa	0.0357 ****	0.0324 ****	0.0347 ****	0.0392 ****	0.0384 ****
	(0.00542)	(0.00594)	(0.00577)	(0.00685)	(0.00617)
San Pedro Sula	0.0413 ****	0.0379 ****	0.0402 ****	0.0448 ****	0.0441 ****
	(0.00657)	(0.00704)	(0.00653)	(0.00783)	(0.00726)
Insecurity Terms					
Insecurity, Definition A (Insecurity A)		0.000439		0.00144 **	
		(0.000322)		(0.000599)	
Insecurity, Definition B (Insecurity B)			0.000647		0.00455 *
			(0.00121)		(0.00257)
Insecurity A*Urban Interaction				-0.00141 **	
				(0.000711)	
Insecurity B*Urban Interaction					-0.00502 *
					(0.00292)
Adjusted R-Squared:	0.268	0.268	0.268	0.269	0.268
Observations: 9950					

**** 99.9999 %, *** 99%, ** 95%, * 90%

Table 15. GFA Model, Urban Level: A Measure of the Internal Efficiency of Schooling

	Urban Model	Urban Model + Insecurity A	Urban Model + Insecurity B
Parameter Estimates	**Coefficient (St. Err.)**		
Intercept	0.973 ****	0.974 ****	0.974 ****
	(0.0240)	(0.0240)	(0.0240)
Household Income (1000 Lempiras)	2.28E-6	1.76E-6	-4.32E-7
	(0.000161)	(0.000161)	(0.000161)
Age	-0.0131 ****	-0.0131 ****	-0.0131 ****
	(0.00122)	(0.00122)	(0.00122)
School Years, Male Head or Spouse	0.00312 ****	0.00312 ****	0.00312 ****
	(0.000738)	(0.000738)	(0.000738)
School Years, Female Head or Spouse	0.00562 ****	0.00562 ****	0.00563 ****
	(0.000692)	(0.000692)	(0.000692)
Number of People per Room	-0.0146 ****	-0.0146 ****	-0.0145 ****
	(0.00124)	(0.00124)	(0.00124)
Female	0.0222 ****	0.0222 ****	0.0222 ****
	(0.00407)	(0.00407)	(0.00407)
Repeating Last Year	-0.161 ****	-0.161 ****	-0.161 ****
	(0.00759)	(0.00759)	(0.00759)
Enrolled in School Last Year	0.181 ****	0.181 ****	0.181 ****
	(0.0137)	(0.0137)	(0.0137)
Female Head/Spouse Missing	-0.0117	-0.0116	-0.0116
	(0.0107)	(0.0107)	(0.0107)
Male Head/Spouse Missing	-0.0103 **	-0.0103 **	-0.0103 **
	(0.00442)	(0.00442)	(0.00442)
Big City	-0.00303	-0.00283	-0.00233
	(0.00584)	(0.00598)	(0.00593)
Tegucigalpa	-0.0000490	-0.0000754	0.000977
	(0.00610)	(0.00666)	(0.00646)
San Pedro Sula	0.00392	0.00435	0.00549
	(0.00696)	(0.00749)	(0.00732)
Insecurity Terms			
Insecurity, Definition A (Insecurity A)		-0.0000531	
		(0.000341)	
Insecurity, Definition B (Insecurity B)			-0.0008555
			(0.00123)
Adjusted R-Squared:	0.22	0.22	0.22
Observations: 5542			

**** 99.9999 %, *** 99%, ** 95%, * 90%

Table 16. Mincer Equation, Urban Areas: Estimating Returns to Schooling Using I_A

	Urban Areas		
	Classic Model	**With Insecurity Variable**	**With SchoolYr*Insecurity Interaction**
Parameters	**Estimate (Standard Error)**		
Intercept	1.614 (0.0248) ****	1.614 (0.0250) ****	1.562 (0.0279) ****
Years of Schooling	0.117 (0.00145) ****	0.117 (0.00145) ****	0.124 (0.00209) ****
Experience	0.0406 (0.00119) ****	0.0406 (0.00119) ****	0.0405 (0.00119) ****
Experience^2	-0.000476 (0.0000236) ****	-0.000476 (0.0000236) ****	-0.000473 (0.000237) ****
Female Dummy	-0.150 (0.0112) ****	-0.150 (0.0112) ****	-0.151 (0.0112) ****
Tegucigalpa Dummy	0.246 (0.0202) ****	0.246 (0.0211) ****	0.240 (0.0211) ****
San Pedro Sula Dummy	0.336 (0.0211) ****	0.336 (0.0223) ****	0.330 (0.0223) ****
Other Major Urban Area Dummy	0.215 (0.0201) ****	0.215 (0.0204) ****	0.208 (0.0203) ****
Insecurity A	-	0.0000292 (0.000933)	0.00817 (0.00199) ****
SchoolYrs*Insecurity A Interaction	-	-	-0.000895 (0.000195) ****
Test Statistics			
N	10689	10689	10689
Number of Clusters	7173	7173	7173
F Value	1110.83	973.09	868.05
R-Square	0.48	0.48	0.48

**** 99.999 % Level of Significance

*** 99% Level of Significance

** 95% Level of Significance

Table 17. Mincer Equation, Urban Areas: Estimating Returns to Schooling using I_B

	All Urban Areas	
	Classic Model	**With Insecurity B Dummies**
Parameters	**Estimate (Standard Error)**	
Intercept	1.616 (0.0250) ****	1.589 (0.0270) ****
Years of Schooling	0.117 (0.00145) ****	0.121 (0.00195) ****
Experience	0.0406 (0.00119) ****	0.0405 (0.00119) ****
Experience^2	-0.000477 (0.0000236) ****	-0.000473 (0.0000236) ****
Female Dummy	-0.150 (0.0112) ****	-0.151 (0.0112) ****
Tegucigalpa Dummy	0.253 (0.0210) ****	0.248 (0.0209) ****
San Pedro Sula Dummy	0.343 (0.0222) ****	0.338 (0.0221) ****
Other Major Urban Area Dummy	0.218 (0.0203) ****	0.213 (0.0203) ****
Responds "very unsafe" to 1 question (Unsafe = 1)	-0.0226 (0.0189)	-0.0724 (0.0461)
Responds "very unsafe" to 2 questions (Unsafe = 2)	-0.0152 (0.0191)	0.0527 (0.0441)
Responds "very unsafe" to 3 questions (Unsafe = 3)	-0.00803 (0.0212)	0.0869 (0.0491) *
Responds "very unsafe" to 4 questions (Unsafe = 4)	-0.000644 (0.0199)	0.112 (0.0462) **
Responds "very unsafe" to 5 questions (Unsafe = 5)	-0.0200 (0.0202)	0.106 (0.0451) **
Unsafe = 1 Dummy*School Years	-	0.00496 (0.00430)
Unsafe = 2 Dummy*School Years	-	-0.00729 (0.00419) *
Unsafe = 3 Dummy*School Years	-	-0.0104 (0.00465) **
Unsafe = 4 Dummy*School Years	-	-0.0120 (0.00451) ***
Unsafe = 5 Dummy*School Years	-	-0.0139 (0.00461) ***
Test Statistics		
N	10689	10689
Number of Clusters	7173	7173
F Value	649.07	463.37
R-Square	0.48	0.48

**** 99.999 % Level of Significance

*** 99% Level of Significance

** 95% Level of Significance

* 90% Level of Significance

Table 18. Mincer Equation, Urban Areas: Estimating Returns by School Level Using I_A

	With Education Dummies	**With Education Dummies, Insecurity, and Education Interaction**
Parameters	**Estimate (Standard Error)**	
Intercept	2.289 (0.0240) ****	2.259 (0.0253) ****
No School Dummy	-0.292 (0.0293) ****	-0.320 (0.0401) ****
Ciclo Comun (MS) Dummy	0.358 (0.0203) ****	0.410 (0.0315) ****
Diversificado (HS) Dummy	0.730 (0.0151) ****	0.822 (0.0232) ****
Superior, Technical Dummy	1.381 (0.0775) ****	1.377 (0.0801) ****
Superior, Not University Dummy	1.361 (0.206) ****	1.349 (0.205) ****
University Dummy	1.480 (0.0203) ****	1.555 (0.0317) ****
Post Graduate Dummy	1.779 (0.0625) ****	1.777 (0.0631) ****
Experience	0.0365 (0.00131) ****	0.0364 (0.00131) ****
Experience ^ 2	-0.000490 (0.0000250) ****	-0.000487 (0.0000250) ****
Female Dummy	-0.157 (0.0121) ****	-0.158 (0.0121) ****
Tegus Dummy	0.307 (0.0214) ****	0.299 (0.0222) ****
San Pedro Sula Dummy	0.379 (0.0224) ****	0.372 (0.0236) ****
Other City Dummy	0.263 (0.0213) ****	0.253 (0.0214) ****
Insecurity A	-	0.00517 (0.00133) ****
Insecurity A*University Dummy	-	-0.00984 (0.00316) ***
Insecurity A*Diversificado Dummy	-	-0.0122 (0.00213) ****
Insecurity A*Ciclo Dummy	-	-0.00683 (0.00301) **
Insecurity A*No School Dummy	-	0.00514 (0.00407)
Test Statistics		
N	9386	9386
Number of Clusters	6672	6672
R-Square	0.49	0.49
F-Value	608.17	442.31

**** 99.999 % Level of Significance
*** 99% Level of Significance
** 95% Level of Significance
* 90% Level of Significance

Appendix Table 1. Relationship between Perceived Insecurity, Victimization by Crime, and Effects on Behavior

				In the last 12 months, a member of the household has (been):													
		All*	Urban	Robbed	Threatened to change homes	Forced to change his opinions or stay quiet	Hit by another person	Injured by a knife or firearm	Witnessed Theft or Violence	Threatened with death	Kidnapped	Stopped walking in the streets	Limited the places they go shopping	Limited their recreational activities	Stopped seeing someone they cared about	Rejected a job or left a paid labor activity	Stopped participating in social or community activities
N		4086	2280	586	49	57	84	45	428	90	15	1142	1070	1049	646	323	340
Q1:	Very Safe (1)	57.39	48.03	35.15	32.65	24.56	27.38	33.33	31.54	27.38	33.33	36.16	35.14	35.46	31.27	30.65	32.35
	Little Safe (2)	32.40	39.56	49.49	34.69	42.11	42.86	44.44	49.07	44.44	40.00	47.64	48.13	48.05	48.61	49.85	50.59
	Very Unsafe (3)	10.21	12.41	15.36	32.65	33.33	29.76	22.22	19.39	27.78	26.67	16.20	16.73	16.49	20.12	19.50	17.06
Q2	1	49.61	37.76	26.96	30.61	24.56	22.62	35.56	24.53	24.44	13.33	26.44	25.33	25.64	24.61	21.67	22.94
	2	37.49	45.13	48.46	46.94	54.39	50.00	33.33	49.77	43.33	33.33	51.58	51.78	51.00	48.92	51.70	48.82
	3	12.90	17.11	24.57	22.45	21.05	27.38	31.11	25.70	32.22	53.33	21.98	22.90	23.36	26.47	26.63	28.24
Q3	1	32.67	22.89	13.48	14.29	14.04	10.71	13.33	11.92	13.33	0.00	13.66	13.18	12.87	11.76	10.84	10.88
	2	40.04	41.27	38.74	34.69	22.81	30.95	31.11	37.62	31.11	26.67	40.89	39.25	39.28	37.00	39.94	39.41
	3	27.29	35.83	47.78	51.02	63.16	58.33	55.56	50.47	55.56	73.33	45.45	47.57	47.86	51.24	49.23	49.71
Q4	1	22.44	17.54	11.09	20.41	8.77	4.76	6.67	10.75	8.89	13.33	11.47	10.56	10.49	10.99	9.60	9.41
	2	45.81	43.29	39.76	40.82	42.11	41.67	40.00	38.55	33.33	33.33	41.51	41.12	40.80	38.70	37.46	40.59
	3	31.74	39.17	49.15	38.78	49.12	53.57	53.33	50.70	57.78	53.33	47.02	48.32	48.71	50.31	52.94	50.00
Q5	1	24.82	16.80	7.85	4.08	7.02	3.57	4.44	9.11	8.89	6.67	9.54	8.88	9.44	8.51	8.98	8.82
	2	41.73	41.89	41.13	48.98	40.35	45.24	37.78	40.65	33.33	20.00	39.58	37.85	38.70	37.31	36.22	37.35
	3	33.46	41.32	51.02	46.94	52.63	51.19	57.78	50.23	57.78	73.33	50.88	53.27	51.86	54.18	54.80	53.82
Mean Insecurity Score:		**6.6**	**7.94**	**9.69**	**9.73**	**10.79**	**10.92**	**10.67**	**10.02**	**11.1**	**12.73**	**9.47**	**9.73**	**9.7**	**10.2**	**10.28**	**10.12**
Have you...																	
Stopped walking in the streets	Percent Responding "Yes"	39.72	50.09	64.33	79.59	73.68	65.48	68.89	66.59	66.67	86.67						
Limited the places you go shopping		36.66	46.93	64.16	73.47	68.42	63.10	71.11	67.06	63.33	86.67						
Limited your recreational activities		35.17	46.01	62.12	65.31	68.42	64.29	64.44	65.19	67.78	86.67						
Stopped seeing someone you cared about		21.63	28.33	43.86	48.98	57.89	35.71	51.11	43.93	55.56	66.67						
Rejected a job or left a paid labor activity		10.52	14.17	26.28	34.69	40.35	28.57	33.33	27.34	40.00	53.33						
Stopped participating in social or community activities		10.82	14.91	25.43	40.82	28.07	27.38	22.22	28.97	26.67	46.67						

* All statistics are limited to the head of household. With the exception of the "All" column, all statistics are calculated for urban respondents only.

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